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(51) INT CL<sup>5</sup>

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(56) Documents cited

GB 1229745 A

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UK CL (Edition K) A4P PKC PL

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(54) Umbrella cushioning member

(57) A tubular sleeve carried on an umbrella's centerpost between the umbrella's runner and crown acts as a cushion when the umbrella is opened. The sleeve is structured to include a cushioning section with ports cut out in the form of holes, spiral grooves, or slots. The sleeve preferably is a one piece molded plastic part that, if desired, can be formed integral with the crown or runner.

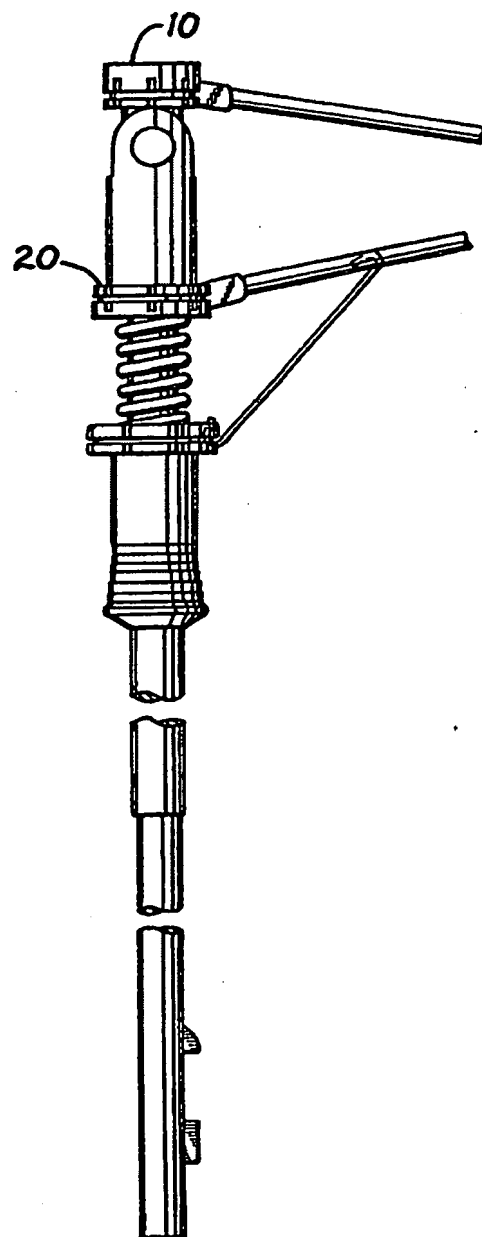


FIG. 1

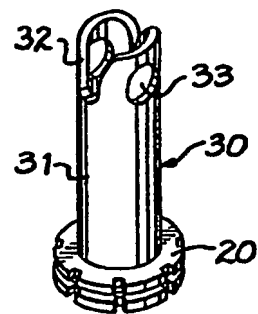


FIG. 2

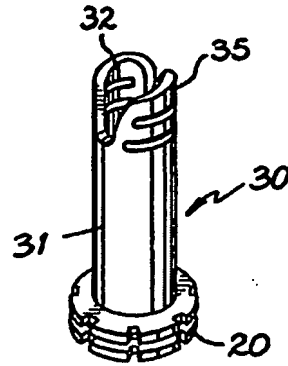


FIG. 4

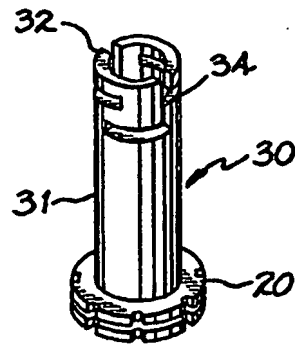


FIG. 3

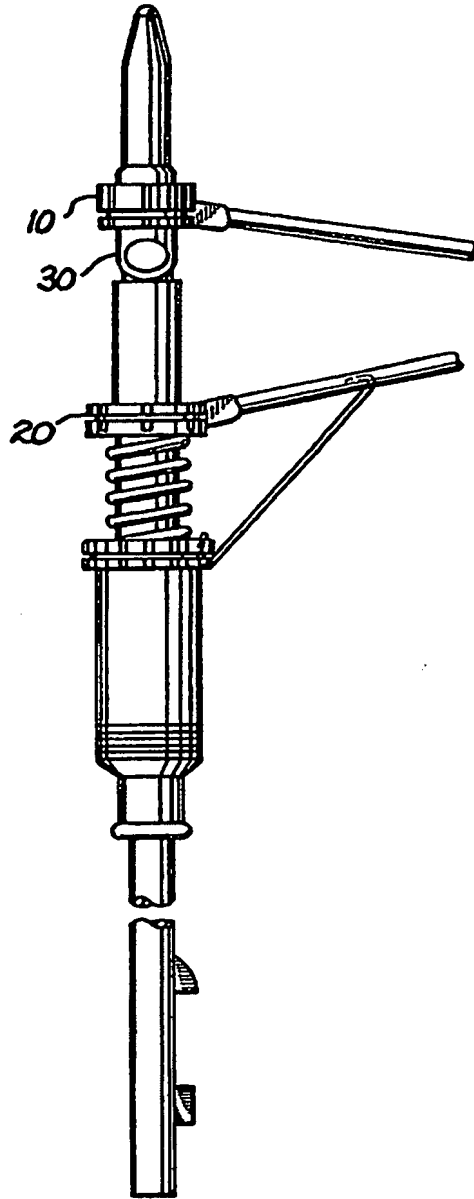


FIG. 5

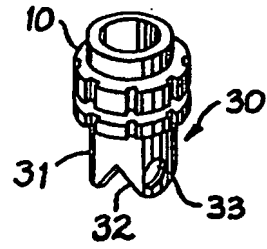


FIG. 6

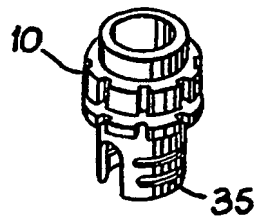


FIG. 8

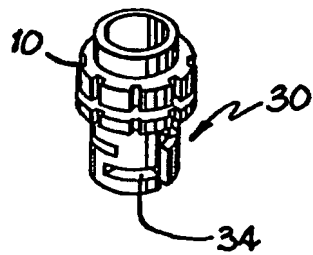


FIG. 7

5/7

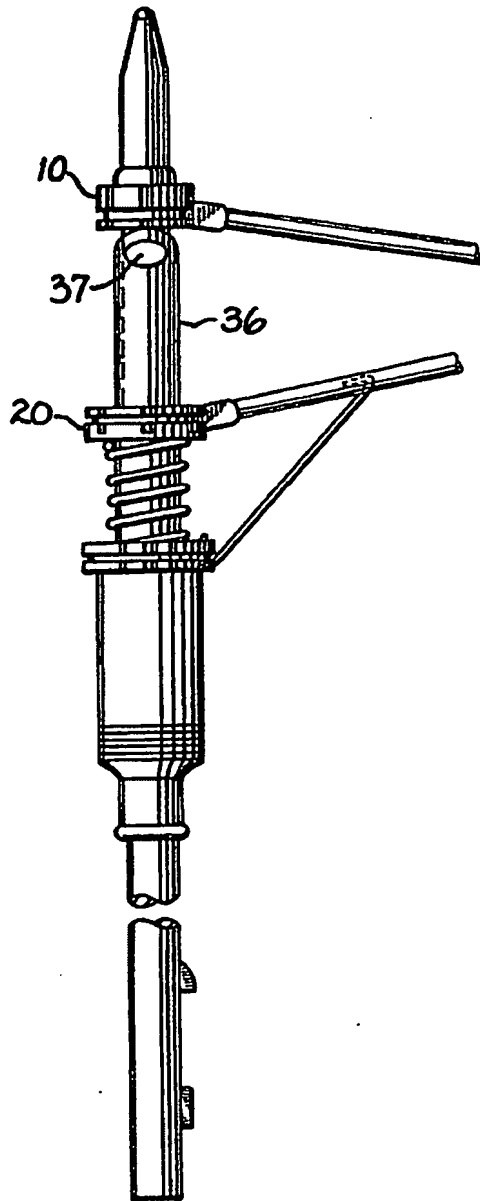


FIG. 9

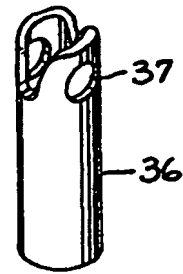


FIG. 10

6/7

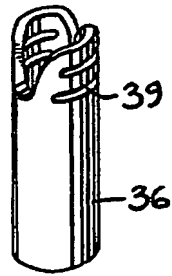


FIG. 12

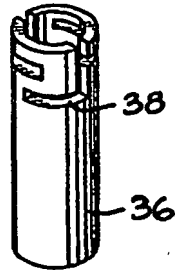


FIG. 11

2/7

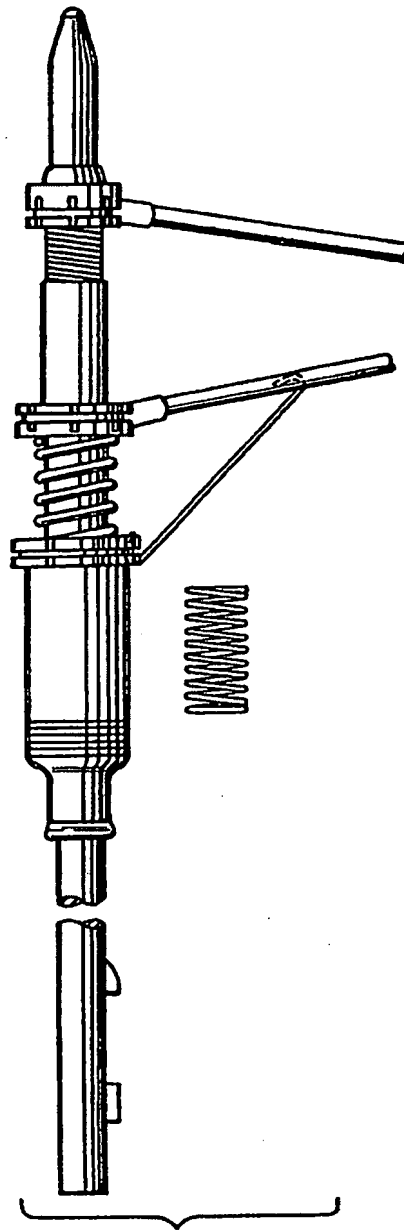


FIG. 13



-1-

UMBRELLA CUSHION

This invention relates to umbrellas. More particularly, this relates to cushions of the type particularly used with automatic or self opening  
5 umbrellas.

It is known to the prior art to use a cushion between an umbrella's runner and crown, and/or between upper and lower runners, particularly in connection with spring loaded, self-opening umbrellas.  
10 The objective is to cushion opening forces created in response to the spring loaded upward movement of the runner(s) when the self-opening umbrella is opened. This prior art cushion is are in the form of a coil compression spring located between the crown and the  
15 runner, and/or between upper and lower runners as shown in Fig. 13. The umbrella industry is a labor-intensive industry, and it is desirable to reduce the labor and parts costs when possible. The cushioning coil compression springs mentioned above constitute  
20 relatively expensive parts, and are relatively difficult to handle in assembly, compared to the cushion of this invention.

Therefore, the primary objective of this invention is to provide a cushion for an umbrella and, particularly, a self-opening umbrella, which includes a tubular sleeve carried on the umbrella's centerpost between the umbrella's crown and runner, there being a cushioning section formed in the sleeve which is of a lesser thickness relative to the thickness of the rest of the sleeve, that cushion section being adapted to flex as the runner pushes the sleeve against the crown, the tubular sleeve with cushioning section thereby functioning as a cushion when the umbrella is opened.

Another objective of this invention has been to provide a cushion for an umbrella as mentioned in the above paragraph where the lesser thickness cushioning section is comprised of at least one of slots, spiral grooves, and holes formed in the cushion's tubular sleeve.

It has been a further objective of this invention to provide a cushion for an umbrella where the cushion is integrally molded with one of the umbrella's crown and runner to facilitate manufacture and assembly of the umbrella.

In accord with these objectives, the umbrella cushion of this invention is in the form of a tubular sleeve carried on an umbrella's centerpost between the umbrella's runner and crown which acts as a cushion when the umbrella is opened. The sleeve is

structured to include a cushioning section preferably with ports cut out in the form of holes, spiral grooves, or slots. The sleeve may be a one piece molded plastic part that, if desired, can be formed integral with the crown or runner.

Other objectives and advantages of this invention can be better understood from the following detailed description in conjunction with the drawings in which:

Fig. 1 is a partial plan view showing a collapsible self-opening umbrella having a cushion in accord with the principles of this invention;

Fig. 2 is a perspective view showing the cushion illustrated in Fig. 1;

Fig. 3 is a perspective view showing a cushion according to a second embodiment of this invention;

Fig. 4 is a perspective view showing a cushion according to a third embodiment of this invention;

Fig. 5 is a partial plan view showing a collapsible umbrella having a cushion according to a fourth embodiment of this invention;

Fig. 6 is a perspective view showing the cushion illustrated in Fig. 5;

Fig. 7 is a perspective view showing a cushion according to a fifth embodiment of this invention;

Fig. 8 is a perspective view showing a cushion according to a sixth embodiment of this invention;

5 Fig. 9 is a partial plan view showing a collapsible umbrella having a cushion according to a seventh embodiment of this invention;

Fig. 10 is a perspective view showing a cushion illustrated in Fig. 9;

10 Fig. 11 is a perspective view showing a cushion according to an eighth embodiment of this invention;

Fig. 12 is a perspective view showing a cushion according to a ninth embodiment of this invention; and

15 Fig. 13 is a perspective view showing a collapsible umbrella with a prior art cushion, that prior art cushion being in the form of a compression coil spring also illustrated separately in that figure.

20 A cushion for a self-opening umbrella according to this invention can be used in self-opening umbrellas with various rib linkage structures, and with collapsible or non-collapsible centerpost umbrellas. The cushion, which preferably is molded from a thermoplastic material, can be formed integral with the umbrella's runner to extend upwardly therefrom, as shown in Figs. 1-4, or can be molded integral with the umbrella's crown to extend downwardly therefrom, as shown in Figs. 5-8, to produce a cushioning effect when the automatic umbrella is opened. The cushion can also be formed as a separate component

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part, as shown in Figs. 9-12. In each case, however, the cushion is comprised of a tubular sleeve with a cushioning section where that cushioning section is of a lesser thickness relative to the rest of the sleeve, the tubular sleeve being carried in longitudinal axial alignment on the umbrella's centerpost when assembled with that centerpost.

A first embodiment of a cushion 30 is shown in Fig. 1. The cushion 30 is carried on the centerpost of an umbrella that includes a fixed crown 10 and a slidable runner 20. As shown in Fig. 2, the cushion 30 is integrally formed with the runner 20 and extends upwardly therefrom when installed on the centerpost. The cushion 30 includes a tubular sleeve 31 and cushioning section formed in that sleeve, the sleeve being positioned around the centerpost of the umbrella. A tip end 32 of the sleeve 31 has a forked shape, and hole 33 is provided in each fork end of the cushioning section. Therefore, when the runner 20 is pushed upwardly (as the umbrella is opened), the fork ends with holes 33 contact the crown 10 and produce a desired cushioning effect.

In the second and third embodiments illustrated in Figs. 3 and 4, spiral grooves 34 or slots 35, respectively, are provided in fork tip ends 32 of the cylinder 31 to achieve the cushioning effect. In these embodiments, note also the sleeves 31 are molded integral with the runners 20.

The cushion 30 cannot only extend upwardly from a runner 20 (as shown in Figs. 1-4), but also can extend downwardly from a crown 10 (as shown in Figs. 5-8). A fourth embodiment shown in Figs. 5 and 6 illustrates a cushion 30 molded integral with and extending downwardly from the crown 10. The cushion 30 is formed by a tubular sleeve 31 having a forked shape at its tip end 32, and each fork end has a hole 33. When the runner 20 is pushed upwardly (as the umbrella in opened), the cushion 30 with the holes 33 produces the desired cushioning effect.

In the fifth and sixth embodiments illustrated in Figs. 7 and 8, spiral grooves 34 or slots 35, respectively, are provided in fork tip ends 32 of the cushion 30 to achieve the cushioning effect. In these embodiments, note the sleeves 31 are molded integral with the runners 20, too.

A seventh embodiment is illustrated in Figs. 9 and 10. The cushion is in the form of a separate tubular sleeve 36 installed on the centerpost between a crown 10 and a runner 20. The separate sleeve 36 includes a cushioning section having holes 37 to produce the cushioning effect. Also, eighth and ninth embodiments of the cushion are shown in Figs. 11 and 12, respectively. In these embodiments, spiral grooves 38 and slots 39, respectively, produce the desired cushioning effect. In each seventh, eighth and ninth embodiments, the cushioning section is

illustrated at the top of the sleeve 36. However, it should be understood that the cushioning section also may be provided at the bottom, or any midway position along the length, of the sleeve 36 without departing  
5 from the scope of the invention.

It will of course be understood that the present invention has been described above purely by way of example, and that modifications in detail can be made within the scope of the invention.

CLAIMS

(1) An umbrella having a centerpost, a runner slidably carried on said centerpost, and a crown fixed to the top end of said centerpost, said umbrella comprising

5 a tubular sleeve carried on said centerpost between said crown and said runner, and

a cushioning section formed in said sleeve, said cushioning section constituting a section of lesser thickness relative to the thickness of the rest  
10 of said sleeve, said cushioning section being adapted to flex if said runner pushes said sleeve against said crown, said tubular sleeve with cushioning section thereby being able to function as a cushion when said umbrella is opened.

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(2) An umbrella as set forth in Claim 1, said cushioning section comprising

at least one port cut out of said sleeve.

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(3) An umbrella as set forth in Claim 2, said cushioning section comprising

at least two ports symmetrically located on said sleeve relative to a plane that includes the longitudinal axis of said sleeve.

25

(4) An umbrella as set forth in Claim 3, said ports comprising

one of holes, slots, and spiral grooves.



(5) An umbrella as set forth in Claim 1, said tubular sleeve being formed as a one piece thermo-plastic part.

5 (6) An umbrella as set forth in Claim 5, said tubular sleeve being molded integral with one of said crown and said runner.

(7) An umbrella having a centerpost, a runner  
10 slidably carried on said centerpost, and a crown fixed to the top end of said centerpost, said umbrella comprising

a tubular sleeve carried on said centerpost between said crown and said runner, and

15 a cushioning section formed in said sleeve, said sleeve and said cushioning section being molded integral with one of said crown and said runner.

(8) An umbrella substantially as hereinbefore described with reference to and as shown in Figures 1 and 2, Figure 3, Figure 4, Figures 5 and 6, Figure 7, Figure 8, Figures 9 and 10, Figure 11 or Figure 12 of the accompanying drawings.

- 10 -

**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

Application number  
 9111423.1

**Relevant Technical fields**

(i) UK Cl (Edition K ) A4P PL, PKC

(ii) Int Cl (Edition 5 ) A45B 25/06

**Databases (see over)**

(i) UK Patent Office

(ii)

Online Database: WPI

**Search Examiner**

R B L STAGG

**Date of Search**

25 JULY 1991

Documents considered relevant following a search in respect of claims

1-8

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
	GB 1229746 (BREMSHEY & CO)	1 & 5
	GB 1002822 (BROOKE & BURGESS LTD)	1 & 5 & 6
	GB 918830 (KARL KORTENBACH)	1, 5 & 6
	GB 876005 (BROOKE & BURGESS LTD)	1 & 5
	GB 867048 (WALKER LITHERLAND PLASTICS LTD)	1 & 6
	GB 796252 (GRANT, BARNETT & CO LTD)	1, 5, 6

SF2(p)

GP4ABQ

11

Category	Identity of document and relevant passages	Relevant to claim(s)

**Categories of documents**

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

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